



MANUAL

MASC S/23-9004X
IECEX BVS 20.0081X

Explosionproof Access Point
Type SAnR



Edition February 2024

Explosionproof switchgear combinations in the type of protection 'nR'

(Equipment without built-in components that give off arcs or sparks during normal operation)

The explosionproof switchgear combinations are intended for use in Zone 2 (EPL Gc) explosive gas atmospheres according to IEC/EN 60079-0 and IEC/EN 60079-15.

Before dispatch, each enclosure is subjected to a halftime pressure test. The test is carried out to determine the time to change to half the initial pressure value from 3 to 1.5 mbar. This shall not be less than 180 seconds. Testing of enclosures after installation is not required. For this reason, the enclosures do not feature a test port.

The restricted breathing polyester enclosures are subjected to ageing tests (thermal endurance to heat and cold, impact test followed by IP test). The test for leakage in accordance with IEC/EN 60079-15 is not carried out until after the IP test. The halftime value of the polyester enclosures is substantially higher than the requirements of the standard.

Non-explosionproof electronic components such as, for example, access points, WLAN antennas, GSM modules, can be built into restricted breathing enclosures.

**Explosionproof Access Point**

Ex nR IIC T6, T5, T4 Gc

Type SAnR (Category 3G)

Contents:

1. Safety rules
2. Conformity with standards
3. Technical data
4. Installation
5. Initial test
6. Servicing and Maintenance
7. Disposal

Target group

Experienced qualified electricians in accordance with the occupational health and safety decree and trained persons.

1. Safety rules

The explosionproof access points are used for stationary installation in hazardous areas classified as zones 2 to IEC 60079-10-1.

Do not leave this Manual or any other object inside the enclosure when the unit is in service.

Operate the explosionproof access points only for their intended duty when in an undamaged and clean condition, and only where the material of the enclosure is compatible with the environment.

In the event of incorrect assembly, the minimum ingress protection IP 66 to IEC 60529 will no longer be assured.

No modifications that are not expressly specified in this Manual are allowed to the explosionproof access points.

Whenever work is done on the explosion-proof access points, the national safety and accident prevention regulations and the safety instructions given in this Manual (stated in italics as in this paragraph) must always be observed!

1.1 Specific conditions of use

For the use of equipment in type of protection Intrinsic Safety „i“ EN/IEC 60079-11 the distances between intrinsically safe and non-intrinsically safe circuits shall fulfil the requirements according to EN 60079-11.

2. Conformity with standards

The explosionproof access points meet the requirements of IEC 60079-0 and IEC 60079-15. They have been developed, manufactured and tested in accordance with state-of-the-art engineering practice and ISO 9001:2015.

3. Technical data

3.1 Marking

3.1.1 Areas with gas explosion hazard

⊕ Ex nR IIC T6, T5, T4 Gc

3.2 Certification

MASC S/23-9004X

IECEX BVS 20.0081X

3.3 Enclosure ingress protection

Minimum degree of protection IP 66

3.4 Type code

SAnR 2 3 7 27 27 13

dimension
(length, height, depth [cm])

enclosure size 1 271 x 271 x 136 mm (standard)

enclosure size 2 542 x 271 x 136 mm (special version)

3.5 Electrical data

Rated voltage

Max. 60 V DC (see rating plate)

Conductor cross section CAT 7

3.6 Permissible ambient temperatures

The permissible ambient temperature is max. –20°C to 60°C.

4. Installation

For installation and operation it is essential to follow this Manual and the relevant national regulations in addition to generally accepted good engineering practice and IEC 60079-14 'Electrical installations design, selection and erection'.

4.1 Qualifications

The installation of the equipment may only be carried out by experienced personnel who during their training have also been instructed in the various types of explosion protection, installation processes, the relevant rules and regulations and the general principles of hazardous zone classification. Appropriate ongoing training or instruction must be given to these personnel regularly.

4.2 Network cable

Only network cables from Huber+Suhner with the designation Radox Railcat CAT7 100 Ohm, 4x(2x24AWG) XM S can be used.

The minimum cable length of 5 m must not be undercut. Other cables may only be used after being approved by the manufacturer



Batch cable (connection of the connection module to the access point)

Ethernet network cable CAT6 (or higher)

The data on the type plate are binding!

4.3 Cable and conductor entries

For access points type SAnR/SAtc, only those cable and conductor entries and plugs that possess an EU type-examination certificate (according ICE Equipment Protection Level Gc or Db) issued by a European Notified Body as per IEC 60079-0, IEC 60079-7 and IEC 60079-31 may be used.

Cable and conductor entries may only be fitted in specially prepared holes that are closed off with plugs.

The cable and conductor entries must be installed so as to prevent self-loosening and ensure permanent sealing of the cable and conductor entry points.

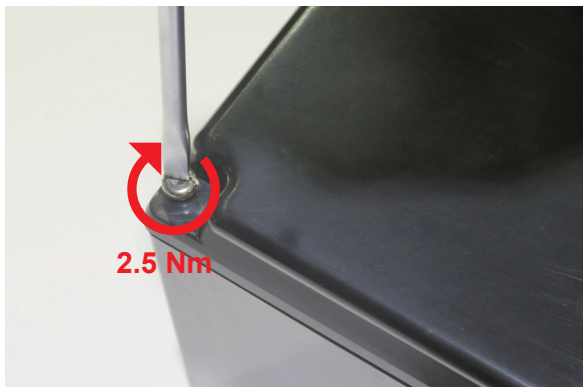
In the factory the cable and conductor entries are fitted with CEAG type GHG 960 923 P... cable glands. The dimensions, the clamping ranges for cables and wires and the torques are shown in the tables in Annex A.

If other cable and conductor entries are installed, the required torques and cable diameters will be found in the appropriate manual.

If any cable and conductor entries are not used or are no longer needed, the tapped holes and redundant gland bodies must be blanked off with suitable blind plugs or caps.

4.4 Closing enclosure

The cover screws shall be tightened with a torque of 2.5 Nm to ensure the necessary tightness.



5. Initial test

5.1 Switch and control gear combinations ***without*** test port (only applies to polyester enclosures)

In the case of explosionproof control gear combinations (with components that do not give off arcs or sparks) without a test port, the routine test was carried out with a pressure half-value time of 180 seconds. Further testing on site is not required.

If the explosionproof control gear combinations have to be opened for maintenance or repairs contrary to the above conditions, an additional pressure half-life test must be carried out.

The enclosure is tested with an overpressure of 0.3 kPa (3 mbar). The length of time needed to reach half the pressure 0.15 kPa (1,5 mbar) shall be at least 180 seconds .

In order to be able to carry out a pressure half-life test, the enclosures are equipped with a blanking element in addition to the cable entry.

Warning – Do not open, maintain or service in an area when an explosive atmosphere is present.

6. Servicing and Maintenance

The provisions of IEC 60079-17 ‘Inspection and maintenance of electrical installations in hazardous areas’ relating to inspection, servicing and maintenance must be complied with. In the course of inspections and maintenance work, those components on which the type of explosion protection is dependent must be inspected particularly carefully.

6.1 Qualifications

The inspection, servicing and maintenance of the equipment may only be carried out by experienced personnel who during their training have also been instructed in the various types of explosion protection, installation processes, the relevant rules and regulations and the general principles of hazardous zone classification.

Appropriate ongoing training or instruction must be given to these personnel regularly.

6.2 *Requirements to be met by the enclosure*

Check the condition of the gaskets.

To ensure compliance with the permissible surface temperatures, ensure that the ambient temperature remains within the range indicated on rating plate. In this connection, remember to take the effects of other heat sources into account, such as exposure to sunlight or, if applicable, higher switching capacities for short periods. These effects should not be allowed to raise the enclosure temperature additionally.

6.3 *Spare parts*

Only genuine spare parts from the manufacturer may be installed. Make sure that the components and parts are suitable for each application (device category 3G/2D or device protection level Gc/Db). The appropriate temperature range based on the environmental temperature must also be considered when selecting the spare parts. When in doubt, please contact the manufacturer.

6.4 *Switch and control gear combinations without test port (only applies to polyester enclosures)*

In the case of explosionproof control gear combinations (with components that do not give off arcs or sparks) without a test port, the routine test was carried out with a pressure half-value time of 180 seconds. Further testing on site is not required.

If the explosionproof control gear combinations have to be opened for maintenance or repairs contrary to the above conditions, an additional pressure half-life test must be carried out.

The enclosure is tested with an overpressure of 0.3 kPa (3 mbar). The length of time needed to reach half the pressure 0.15 kPa (1,5 mbar) shall be at least 180 seconds .

In order to be able to carry out a pressure half-life test, the enclosures are equipped with a blanking element in addition to the cable entry.

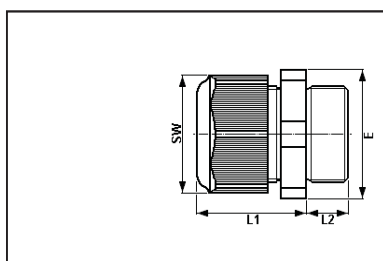
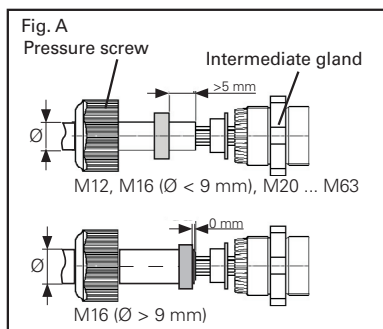
Warning – Do not open, maintain or service in an area when an explosive atmosphere is present.

7. Disposal

When the explosionproof switchgear assemblies are eventually disposed of, the national regulations governing the disposal of waste materials in the country concerned must be rigorously observed.

Annex A

Dimension drawings and dimensions in mm



1 Technical data

1.1 Technical details for: Cable entries (KLE) M12x1,5 to M63x1,5

ATEX EU-type examination certificate:	PTB 14 ATEX 1015 X ^(A)
Marking acc. to 2014/34/EU and standard:	
EN 60079-0	Ex II 2 G Ex eb IIC Gb
	Ex II 2 D Ex tb IIIC Db
IECEx type examination certificate:	IECEx PTB 14.0027X ^(A)
Category of application:	IEC60079-0 Ex eb IIC Gb
	Ex tb IIIC Db

^(A) The EU-Type Examination Certificate and any future supplements thereto shall, at the same time, be regarded as supplements to the EU-Type Examination Certificate PTB 99 ATEX 3128 X and PTB 99 ATEX 3101 X.

Perm. storage temperature in original packing:	-20° C to +70° C
Degree of protection to IEC/EN 60529:	IP 66* ¹⁾ (when fully assembled)

*1) M40, M50 und M63 with suitable flange seal

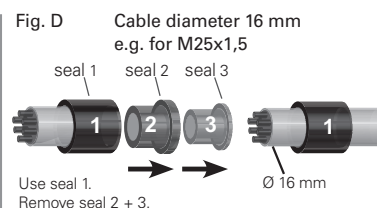
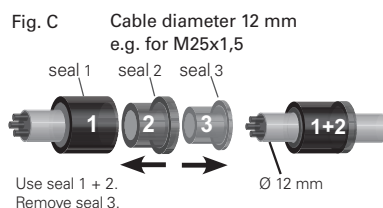
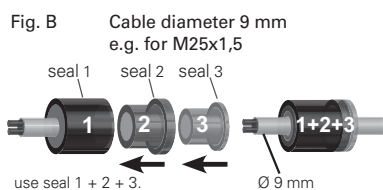
Type	SW	L1	L2	E	weight app.
M12x1,5	15 mm	19,3 mm	12 / 8 mm	16,2 mm	3,4 g
M16x1,5	20 mm	23,0 mm	12 / 8 mm	22,0 mm	6,5 g
M20x1,5	24 mm	25,0 mm	13 / 8 mm	26,5 mm	10,1 g
M25x1,5	29 mm	29,5 mm	13 / 8 mm	32,0 mm	16,9 g
M32x1,5	36 mm	35,5 mm	15 / 10 mm	40,0 mm	27,6 g
M40x1,5	46 mm	39,5 mm	15 / 10 mm	50,5 mm	50,3 g
M50x1,5	55 mm	44,0 mm	16 / 12 mm	60,0 mm	75,9 g
M63x1,5	68 mm	47,0 mm	16 / 12 mm	75,0 mm	117,6 g

Type	operating temperature	impact resistance	Cable diameter													Screw-in thread in enclosure	Colour of dust protection cover
	°C	Joule	Seal 1+2+3 ⁽¹⁾⁽²⁾⁽³⁾				Seal 1+2 ⁽¹⁾⁽²⁾				Seal 1 ⁽¹⁾				Nm**		
			min. Ø	Nm**	max. Ø ⁽¹⁾⁽²⁾	Nm**	min. Ø	Nm**	max. Ø ⁽¹⁾⁽²⁾	Nm**	min. Ø	Nm**	max. Ø ⁽²⁾	Nm**			
M12x1,5	-20 - 70	4					5,5	1,0	7,0	1,0	5,0	0,8	7,0	1,0	1,2		white
M16x1,5	-20 - 70	4					7,0	1,5	9,0	1,4	7,0	1,0	10,0	1,4	3,3		white
M20x1,5	-20 - 70	7	5,5	1,5	7,0	1,0	7,0	1,5	9,0	1,4	9,5	1,0	13,0	1,7	2,7		white
M20x1,5	-40 - 70	4	5,5	1,5	7,0	1,0	7,0	1,5	9,0	1,4	9,5	1,0	11,0	1,7	2,7		green
M25x1,5	-20 - 70	7	8,0	1,5	10,0	2,0	10,0	2,3	13,0	2,6	13,5	1,3	17,5	2,3	3,0		white
M25x1,5	-55 - 70	7	8,0	1,5	10,0	2,0	10,0	2,3	13,0	2,6	13,5	1,5	15,0	2,3	3,0		green
M32x1,5	-20 - 70	7					14,0	3,0	17,0	4,0	17,5	1,5	21,0	1,3	5,0		white
M32x1,5	-55 - 70	7					14,0	3,0	17,0	4,0	17,5	1,5	21,0	1,3	5,0		green
M40x1,5	-55 - 70	7					19,0	3,3	22,0	5,5	22,0	3,3	28,0	6,7	7,5		green
M50x1,5	-55 - 70	7					24,0	6,0	28,0	7,0	28,0	5,0	35,0	7,0	7,5		green
M63x1,5	-55 - 70	7					29,0	12,0	35,0	12,0	36,0	12,0	41,0	13,0	7,5		green
additional seal							41,0	13,0	48,0	7,8							

** Test torques at 20°C

⁽¹⁾ The tests of clamping ranges and torque values were performed with metal mandrel. The clamping range can vary by using cables with different manufacturing tolerances and material properties. Please use the combination of sealing 1 + 2 + 3 for the intermediate region.

⁽²⁾ When selecting the seal rubber, ensure that the cap nut can be tightened when carrying out any future maintenance work on the cable entry.



 			
Mining And Surface Certification (Pty) Ltd 2015/021934/07			
THIS CERTIFICATE IS ISSUED AS AN I.A. CERTIFICATE IN TERMS OF THE MINE HEALTH AND SAFETY ACT, ACT NO 29 OF 1996 (AND REGULATIONS), THE OCCUPATIONAL HEALTH AND SAFETY ACT (ACT 85 OF 1993) AND REGULATION 17 OF THE ELECTRICAL MACHINERY REGULATIONS			
IA CERTIFICATE	MASC S/23-9004X	Issue	0
Issue Date	08 May 2023	Expiry Date	08 May 2026
** Based on Certificate No	IECEX BVS 20.0081X	Issue / Variations / Amendment	0
Requested by	thuba Ltd. Stockbrunnenrain 9, 4123 Allschwil, Switzerland		
Manufacturer	thuba Ltd. Stockbrunnenrain 9, 4123 Allschwil, Switzerland		
Description	The explosionproof switchgear assemblies type SAnR * * * * * consist of a separately certified empty enclosure equipped with different monitoring, control and switch equipment (separately certified or industrial version) as well as terminals for intrinsically and non-intrinsically safe circuits. Refer to Annex B below for a full description		
Equipment	Explosionproof switchgear assemblies	Type	SAnR * * * * *
MARKING: Original marking as per certificate ** remains applicable. IA number must be added.	Type: Ex Marking: IA Number: Warnings:	As above Ex nR * IIC T6, T5, T4 Gc Ex nR * [ic] IIC T6, T5, T4 Gc Ex nR * [ib Gb] IIC T6, T5, T4 Gc Ex nR * [ia Ga] IIC T6, T5, T4 Gc Optional the marking can be amplified with the types of protection of the separately certified components, for example "d/db", "e/eb", "ma/mb" and/or "ia/ib". MASC S/23-9004X (To be additionally marked on equipment) See Base Certificate ** (original marking must be applied)	
Quality Assurance report (QAR) / Notification (QAN) Expiry date:	DE/BVS/QAR13.0010/11		
Compliance: The equipment as described above has been allocated the rating <u>Explosion Protected 'as above'</u> utilizing the SANS/IEC Standards: - SANS (IEC) 60079-0: 2017 (2019) Explosive atmospheres Part 0: Equipment - General requirements - SANS (IEC) 60079-11: 2011 (2012) Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i" - SANS (IEC) 60079-15: 2017 (2022) Explosive atmospheres - Part 15: Equipment protection by type of protection "n" <i>Note: This certificate covers only the listed standards and does not imply compliance to any other standard, related or inferred. It is up to the manufacturer to ensure that the product complies to all relevant standards for the application.</i>			
Special conditions of safe use "X": Refer to Annex A below for more details.			
Conditions of manufacture: Refer to Annex A below for more details.			
 Terine Orsmond PROJECT MANAGER		 Regardt Zeelie TECHNICAL SPECIALIST	
This certificate covers all units sold as long as the QAR/QAN remains valid. According to the relevant requirements of the MHS Act and the OHS Act, production units of explosion protected equipment are required to comply with third party quality assurance (an approved mark scheme or batch testing by an accredited test laboratory).			

Page 1 of 3

Apparatus in hazardous locations is subject to the following provisions as applicable, which shall be adhered to:

SANS 10086 requirements:

Any conditions mentioned in the above certificate:

Any relevant requirements of the MHS Act:

Any restrictions and conditions enforced by the chief inspector of mines, principal inspector (Group I equipment) or chief inspector of factories (Group II equipment).

This certificate may only be reproduced in full

The certificate is not transferable and remains the property of the issuing body.

Mining And Surface Certification (Pty) Ltd
 Unit 5 Lelyta Park, 45 Jurg Avenue, Hennopspark, Ext 87
 Centurion 0157

IA CERTIFICATE: MASC S/23-9004X
Equipment: Explosionproof switchgear assemblies type SAnR * * * * *
(Expiry date: 08 May 2026)

Page 2 of 3

ANNEX A

This document is based on and must be read in conjunction with certificate IECEx BVS 20.0081X	
Description (According to Base Certificate) **	
"Refer to description in Annex B below and Base Certificate ** (and any applicable schedules/issues/variants)."	
Standard compliance	See Base Certificate **
Special conditions of safe use ("X")	For the use of equipment in type of protection Intrinsic Safety "I" IEC 60079-11 the distances between intrinsically safe and non-intrinsically safe circuits shall fulfil the requirements according to IEC 60079-11.
Conditions of manufacture	No additional conditions as may be applicable for the base certificate **
Conditions of Certification	- This IA Certificate covers all units sold from the date of this document to the expiry date of this certificate. - As per ARP 0108 / NCoP 2022 a maximum three yearly review is required on this IA Certificate (expiry is determined as per the QAR/QAN/QMS expiry date). - The apparatus must be additionally marked with the MASC marking details above. - This approval only covers the equipment as certified above and does not include any scheduled additions or variations / amendments / new issues to the certificate(s), made after the above date. - The equipment does not need to be re-tested when used on the conditions and with such restrictions as prescribed by the certificate on which this IA Certificate is based and any other conditions in this IA Certificate. - The certification on which this IA Certificate is based must remain valid. - The extent of the requirements in the ARP 0108 / NCoP 2022 (or regulations), SANS 10108 and any other applicable regulations on the certification of the equipment must remain unchanged. - The Ex quality assurance notification/report for the equipment must remain valid.
Conclusion:	- From the above and the selective examination of the documentation, nothing contrary to the requirements of the applicable standards was found, provided that the equipment / component is used as described in the above document / certificate and according to the MASC conditions below. A MASC IA certificate is issued based on the work done as per the Base Certificate **. - The routine tests for production units according to the Base Certificate ** must be complied with (if applicable).

This document is issued based on Mining And Surface Certification's Standard Contract terms and conditions available on request.

While every endeavour is made to ensure that a test / assessment / inspection is representative and accurately performed, and that a report / certificate is accurate in the quoted results and conclusions drawn from the test / assessment / inspection, MASC or its directors/employees shall in no way be liable for any error made in carrying out the test / assessment or for any erroneous statement, whether in fact or in opinion, contained in a report / certificate issued pursuant to a test / assessment / inspection.

MASC takes no responsibility for any non-conformances, exclusions or any results / assessments / inspections not in compliance with the standards. By marking the equipment in accordance with the documentation / standard, the manufacturer / applicant attests on his own responsibility that the equipment / installation has been designed and constructed in accordance with the applicable requirements of the relevant standards and documentation, that the routine verifications / routine tests have been correctly completed and the equipment / installation complies with the documentation and standard(s).

This document is only for use and application in South Africa. It is issued based on National interpretations and accepted practices.

This document may only be reproduced in full.
This certificate is not transferable and remains the property of the issuing body.
This document will not be supported by MASC for certification purposes outside the borders of South Africa.

Mining And Surface Certification (Pty) Ltd Reg No: 2015/021934/07
Directors: Roelof Viljoen & Francolius du Toit
Unit #5, Lelyta Park, 45 Jurg Avenue, Hennopspark Ext 87, Centurion, 0157
P.O. Box 14344, Clubview, 0014
Tel: 012 653 2959 ♦ Fax: 086 605 8568
e-mail: info@masc-ex.co.za

IA CERTIFICATE: MASC S/23-9004X

Equipment: Explosionproof switchgear assemblies type SAnR * * * * *
(Expiry date: 08 May 2026)

Page 3 of 3

ANNEX B

Equipment and systems covered by this Certificate are as follows:

Subject and Type

Explosionproof switchgear assemblies type Serie SAnR *1) *2) *3) ** ** *4)

- 1) Manufacturer code
- 2) Enclosure material
 - 1 = Stainless steel
 - 3 = Polyester
 - 7 = Steel
- 3) Variant
 - 7: controls
- 4) Dimensions (width, length, height [cm])

Description

Description
The explosionproof switchgear assemblies type SanR * * * * * consist of a separately certified empty enclosure equipped with different monitoring, control and switch equipment (separately certified or industrial version) as well as terminals for intrinsically and non-intrinsically safe circuits.

The explosionproof switchgear assemblies type SAnR * * * * * is designed in type of protection "nR". The empty enclosure is made of polyester.

Parameters

Rated voltage	max. 800 V
Rated current	max. 400 A
Rated cross-section	max. 240 mm ²
Earthing connection	max. 120 mm ²
Ambient temperature range	max. -55 °C up to +100 °C (depends on the mounting equipment)
IP protection degree	IP66

The rated values will be determinate by the manufacturer depending on the used electrical equipment and according to the relevant standard.

Listing of separately certified components with standard status, which can be installed at the enclosure:

Manufacturer	Subject and type	Certificate	Standards
Cooper Crouse-Hinds GmbH (Eaton)	Empty enclosureGHG 60R...	IECEx PTB 11.0030U	IEC 60079-0:2017 IEC 60079-7:2015
Cooper Crouse-Hinds GmbH	Cable gland type GHG 960 **** * ****	IECEx PTB 14.0027X	IEC 60079-0:2011 IEC 60079-31:2013 IEC 60079-7:2015

This document may only be reproduced in full.
This certificate is not transferable and remains the property of the issuing body.
This document will not be supported by MASC for certification purposes outside the borders of South Africa.

Mining And Surface Certification (Pty) Ltd Reg No: 2015/021934/07
Directors: Roelof Viljoen & Francois du Toit
Unit #5, Lelyta Park, 45 Jurg Avenue, Hennopspark Ext 87, Centurion, 0157
P.O. Box 14344, Clubview, 0014
Tel: 012 653 2959 • Fax: 086 605 8568
e-mail: info@masc-ex.co.za

		IECEX Certificate of Conformity	
INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification System for Explosive Atmospheres for rules and details of the IECEx Scheme visit www.iecex.com			
Certificate No.:	IECEX BVS 20.0081X	Page 1 of 5	Certificate history:
Status:	Current	Issue No: 0	
Date of Issue:	2021-01-13		
Applicant:	thuba Ltd. Stockbrunnenrain 9 4123 Allschwil Switzerland		
Equipment:	Explosionproof switchgear assemblies type SAnR * * * * *		
Optional accessory:			
Type of Protection:	Intrinsic safety "i", Type of protection "n"		
Marking:	Ex nR * IIC T6, T5, T4 Gc Ex nR * [ic] IIC T6, T5, T4 Gc Ex nR * [ib Gb] IIC T6, T5, T4 Gc Ex nR * [ia Ga] IIC T6, T5, T4 Gc Optional the marking can be amplified with the types of protection of the separately certified components, for example "d/db", "e/eb", "ma/mb" and/or "ia/ib".		
Approved for issue on behalf of the IECEx Certification Body:	Dr Michael Wittler		
Position:	Deputy Head of Certification Body		
Signature: (for printed version)			
Date: (for printed version)			
1. This certificate and schedule may only be reproduced in full. 2. This certificate is not transferable and remains the property of the issuing body. 3. The Status and authenticity of this certificate may be verified by visiting www.iecex.com or use of this QR Code. 			
Certificate issued by:		 DEKRA On the safe side.	
DEKRA Testing and Certification GmbH Certification Body Dinnendahlstrasse 9 44809 Bochum Germany			

		IECEX Certificate of Conformity
Certificate No.:	IECEX BVS 20.0081X	Page 2 of 5
Date of issue:	2021-01-13	Issue No: 0
Manufacturer:	thuba Ltd. Stockbrunnenrain 9 4123 Allschwil Switzerland	
Manufacturing locations:		
This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended		
STANDARDS : The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards		
IEC 60079-0:2017 Edition:7.0	Explosive atmospheres - Part 0: Equipment - General requirements	
IEC 60079-11:2011 Edition:6.0	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"	
IEC 60079-15:2017 Edition:5.0	Explosive atmospheres - Part 15: Equipment protection by type of protection "n"	
This Certificate does not indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.		
TEST & ASSESSMENT REPORTS: A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:		
Test Report: DE/BVS/ExTR15.0088/02		
Quality Assessment Report: DE/BVS/QAR13.0010/09		



IECEx Certificate of Conformity

Certificate No.: **IECEx BVS 20.0081X**

Page 3 of 5

Date of issue: 2021-01-13

Issue No: 0

EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

Subject and Type

Explosionproof switchgear assemblies type Serie SAnR *¹⁾ *²⁾ *³⁾ ** ** *⁴⁾

1) Manufacturer code

2) Enclosure material

1 = Stainless steel

3 = Polyester

7 = Steel

3) Variant

7: controls

4) Dimensions (width, length, height [cm])

Description

The explosionproof switchgear assemblies type SAnR * * * * * consist of a separately certified empty enclosure equipped with different monitoring, control and switch equipment (separately certified or industrial version) as well as terminals for intrinsically and non-intrinsically safe circuits.

The explosionproof switchgear assemblies type SAnR * * * * * is designed in type of protection "nR". The empty enclosure is made of polyester.

SPECIFIC CONDITIONS OF USE: YES as shown below:

For the use of equipment in type of protection Intrinsic Safety "i" IEC 60079-11 the distances between intrinsically safe and non-intrinsically safe circuits shall fulfil the requirements according to IEC 60079-11.



IECEx Certificate of Conformity

Certificate No.: **IECEx BVS 20.0081X**

Page 4 of 5

Date of issue: 2021-01-13

Issue No: 0

Equipment (continued):

Listing of separately certified components with standard status, which can be installed at the enclosure:

Manufacturer	Subject and type	Certificate	Standards
thuba Ltd.	Empty enclosure eCam ** ** *	IECEx BVS 16.0026U	IEC 60079-0:2011 IEC 60079-7:2015 ²
Cooper Crouse-Hinds GmbH (Eaton)	Empty enclosure GHG 60R...	IECEx PTB 11.0030U	IEC 60079-0:2017 IEC 60079-7:2015
Bartec-Varnost d.o.o.	Empty enclosure 07-5184-****/**** 07-5185-****/****	IECEx PTB 09.0008U	IEC 60079-0:2017 IEC 60079-7:2017
R. Stahl AG	Rotary actuator Type 8604/1	IECEx PTB 13.0047U	IEC 60079-0:2017 IEC 60079-7:2015
Cooper Crouse-Hinds GmbH (Eaton)	Switch block GHG 41. R	IECEx IBE 14.0005U	IEC 60079-0:2011 ¹ IEC 60079-1:2014 IEC 60079-7:2015 ²
Cooper Crouse-Hinds GmbH (Eaton)	Signal lamp GHG 41. R	IECEx IBE 13.0031U	IEC 60079-0:2011 ¹ IEC 60079-1:2014 IEC 60079-7:2015 IEC 60079-11:2011
Cooper Crouse-Hinds GmbH (Eaton)	Measuring instrument AM45, AM72; VM45, VM72 GHG 41* ****R****	IECEx BVS 14.0082U	IEC 60079-0:2017 IEC 60079-7:2017 ² IEC 60079-11:2011
Cooper Crouse-Hinds GmbH (Eaton)	Automation flap type GHG 610 14** R****	IECEx PTB 11.0020U	IEC 60079-0:2011 ¹ IEC 60079-7:2015
Cooper Crouse-Hinds GmbH (Eaton)	Switch base type Type GHG 23. ...R....	IECEx BVS 13.0108U	IEC 60079-0:2011 ¹ IEC 60079-1:2014 IEC 60079-7:2015 ² IEC 60079-11:2011
Cooper Crouse-Hinds GmbH (Eaton)	Switch base GHG 2... R....	IECEx BVS 14.0047U	IEC 60079-0:2011 ¹ IEC 60079-1:2007 ¹ IEC 60079-7:2006 ²
thuba Ltd.	Control and signalling device ZBWE..., ZBW4B..., ZBW5A..., XBW...	IECEx INE 17.0009U	IEC 60079-0:2011 ¹ IEC 60079-1:2014 IEC 60079-7:2015 ²
thuba Ltd.	Monitoring, control and switch equipment ZBWV/L/R..., XLW..., XAW5..	IECEx INE 17.0010U	IEC 60079-0:2011 ¹ IEC 60079-7:2015 ² IEC 60079-18:2009

¹ No applicable technical differences

² Fulfil the requirements according IEC 60079-15



IECEx Certificate of Conformity

Certificate No.: **IECEx BVS 20.0081X**

Page 5 of 5

Date of issue: 2021-01-13

Issue No: 0

Additional information:

Parameters

Rated voltage	max. 800 V
Rated current	max. 400 A
Rated cross-section	max. 240 mm ²
Earthing connection	max. 120 mm ²
Ambient temperature range	max. -55 °C up to +100 °C (depends on the mounting equipment)
IP protection degree	IP66

The rated values will be determinate by the manufacturer depending on the used electrical equipment and according to the relevant standard.

Your partner for internationally certified solutions in explosion protection

Design and Production

Explosionproof switchgear assemblies

Equipment protection level EPL Gb

- flameproof enclosure 'db'
- increased safety 'eb'
- pressurized enclosure 'pxb'

Equipment protection EPL level Gc

- increased safety 'ec'
- restricted breathing enclosure 'nR'
- pressurized enclosure 'pzc'

Equipment protection level EPL Db and Dc
for areas at risk of dust explosions

- protection by enclosure 'tb', 'tc'
- pressurized enclosure 'pxb', 'pzc'

Accessories

- digital displays
- disconnect amplifiers
- transmitter power packs
- safety barriers
- keyboard and mouse
- monitor
- industrial PC

Lamps

Equipment protection level EPL Ga, Gb, Gc
and EPL Da, Db, Dc

- LED hand lamps and tube lights 6 to 80 W
- LED tube lights for switchgear assemblies
- LED linear luminaires 18 to 58 W
(also with integrated emergency lighting)
- flameproof LED-tubes (Replacement for
fluorescent tubes)
- signal towers
- reflector lamps
- safety lighting
- flashing lamps
- boiler flange lamps

Electric heaters for industrial applications

- heating of air and gases (up to 100 bar)
- heating of liquids
- reactor heating systems (HT installations)
- heating of solids
- special solutions

Pipe and tank trace heating systems

- heating cables
 - heating cables with fixed resistors
 - mineral-insulated heating cables
 - self-limiting heating cables
 - site installation
 - temperature monitoring systems
 - thermostats and safety temperature limiters
 - electronic temperature controllers and
safety cutouts
 - remote controls for temperature controller
 - resistance temperature detectors Pt-100
- Equipment protection level EPL Ga and Gb

Installation material

- temporary bonding
- earth monitoring systems
- terminals and junction boxes
- motor protecting switches up to 63 A
- safety switches 10 to 180 A
(indirect and direct tripping)
- plug-and-socket devices
- clean room power outlets
- control and indicating devices
- signalling device
- customized control stations
- cable reels (max. 3 flange sockets)
- cable glands
- fastening material

Accredited inspection body (SIS 0145)

Extremely strict inspections are carried out to guarantee the correct operation and safety of installations in hazardous areas. We carry out both professional initial inspections and periodic inspections. These consist of a documentation and organisation check and a technical inspection.

Service Facilities according to IECEx Scheme

As an IECEx Scheme service facility we are qualified to carry out repairs, overhauling and regeneration work all over the world – even on equipment from other manufacturers.



thuba Ltd.
CH-4002 Basel

Production:
Stockbrunnenrain 9, CH-4123 Allschwil

Phone +41 61 307 80 00
Fax +41 61 307 80 10
customer.center@thuba.com
www.thuba.com